

pressure since 1888 was recorded at San José (668.3 mm.) and the same day was also the coldest in fourteen years of observations, the mean temperature of the twenty-four hours being 14.23° C. On the Atlantic slope rainy days prevailed all through the month, with several storms, the exact dates of which could not be obtained.

*Earthquakes.*—December 27, 10<sup>h</sup> a. m., tremors. December 30, 10<sup>h</sup> 10<sup>m</sup> p. m., slight tremors.

### CLIMATOLOGICAL DATA FOR JAMAICA.

Through the kindness of Mr. Maxwell Hall, the following data are offered to the MONTHLY WEATHER REVIEW in advance of the publication of the regular monthly weather report for Jamaica:

*Comparative table of rainfall for December, 1901.*  
(Based upon the average stations only)

Divisions.	Relative area.	Number of stations.	Rainfall.	
			Average.	1901.
			Inches.	Inches.
Northeastern division .....	25	21	9.45	8.38
Northern and subcentral division .....	22	54	5.60	6.17
Western-central division .....	26	24	3.91	4.30
Southern division .....	27	23	2.66	2.62
General means .....	100	131	5.40	5.37

In taking the average rainfall Mr. Hall uses only those stations for which he has several years of observation, so that the column of averages represents fairly well the normal rainfall for each division, while the column for the current month represents the average rainfall at those same stations. The relative areas of the divisions are very nearly the same

and are given in the preceding table as expressed in percentages of the total area of Jamaica. The number of rainfall stations utilized in each area varies slightly from month to month, according as returns have come in promptly or not, but will not differ greatly from the numbers in the second column of the table.

*Jamaica, W. I., climatological data, December, 1901.*

	Nearl Point Lighthouse.	Morant Point Lighthouse.
Latitude (north) .....	18° 15'	17° 55'
Longitude (west) .....	78° 23'	76° 10'
Elevation (feet) .....	33	8
Mean barometer { 7 a. m. ....	29.926	29.926
{ 3 p. m. ....	29.978	29.980
Mean temperature { 7 a. m. ....	75.0	78.6
{ 3 p. m. ....	82.1	83.1
Mean of maxima .....	85.3	88.1
Mean of minima .....	72.7	75.0
Highest maximum .....	89.0	90.0
Lowest minimum .....	68.0	69.9
Mean dew-point { 7 a. m. ....	69.9	71.5
{ 3 p. m. ....	71.5	74.0
Mean relative humidity { 7 a. m. ....	84.0	84.0
{ 3 p. m. ....	71.0	71.0
Total rainfall (inches) .....	0.78	7.88
Average wind direction { 7 a. m. ....	ne.	nne.
{ 3 p. m. ....	nne.	nne.
Average hourly velocity, miles { 7 a. m. ....	8.8	12.2
{ 3 p. m. ....	12.3	14.2
Average cloudiness (tenths):		
7 a. m. { Lower clouds .....	2.1	1.6
{ Middle clouds .....	1.7	1.8
{ Upper clouds .....	1.7	1.0
3 p. m. { Lower clouds .....	0.6	2.1
{ Middle clouds .....	5.0	2.0
{ Upper clouds .....	1.7	0.9

NOTE.—The pressures are reduced to standard temperature and gravity, to the Kew standard, and to mean sea level. The thermometers are exposed in Stevenson screens.

## REPORT OF THE CHIEF OF THE WEATHER BUREAU FOR THE YEAR ENDING JUNE 30, 1901.<sup>1</sup>

Dated July 23, 1901.

### OCEAN FORECASTS AND INTERNATIONAL COOPERATION.

An important extension of the forecast work of the Bureau was made during the year. By an arrangement with the secretary of the meteorological office at London, England, the transmission by cable from London to Washington of meteorological reports from certain points in the British Isles and on the Continent of Europe, and from Ponta Delgada, Azores, was begun December 18, 1900. These reports, with observations from Nassau, Bermuda, and Turks Island, have been regularly published on the daily weather maps issued at Washington, Baltimore, Philadelphia, New York, and Boston, together with forecasts of the force and direction of the wind and the state of the weather for the first three days out of steamers bound east from American ports.

The Atlantic forecasts, which are based on the American, Atlantic, and European telegraphic reports, were begun January 7, 1901, and on June 1, 1901, they were made a part of the regular general night forecasts issued at Washington. In a number of instances, when storms of marked strength were passing eastward off the American coast, forecasts were issued of the character of the weather which would probably be experienced by steamers leaving European ports westward bound,

<sup>1</sup> We reprint herewith the Annual Report of the Chief of the Weather Bureau to the Secretary of Agriculture, omitting only the sections devoted to the Galveston Hurricane, and Frost and Flood warnings, which are made up largely of matter that has already appeared in the Review. This report contains much that is of interest to our many voluntary observers, and which they will probably not see elsewhere.

and by an arrangement with Lloyd's, of London, these advices have been cabled to England.

In addition to the daily forecasts of wind and weather and special storm warnings, predictions of fog were issued when conditions favorable for fog development had been indicated in the steamer tracks west of the fiftieth meridian. Reports from transatlantic steamships show that these forecasts and special warnings have been well verified.

In November, 1900, arrangements were made with Portugal to receive reports from the meteorological observatory at Horta, in the Azores. Observations are now regularly received by cable from that place, and they are of much value in the work of forecasting the movements of storms on the Atlantic Ocean.

### NEW FORECAST DISTRICTS.

Three additional forecasting districts have been established and designated as the New England district, the West Gulf district, and the Rocky Mountain district, with headquarters at Boston, New Orleans, and Denver, respectively. The last appropriation bill passed by Congress made provision for three additional forecast officials to be placed in charge of these districts with authority to issue forecasts and warnings for the several States that are comprised in each district. This system has the advantage of enabling each forecaster to devote more time to the consideration of the predictions for each district and of securing an earlier distribution of forecasts. As these forecast officials were selected on account of their